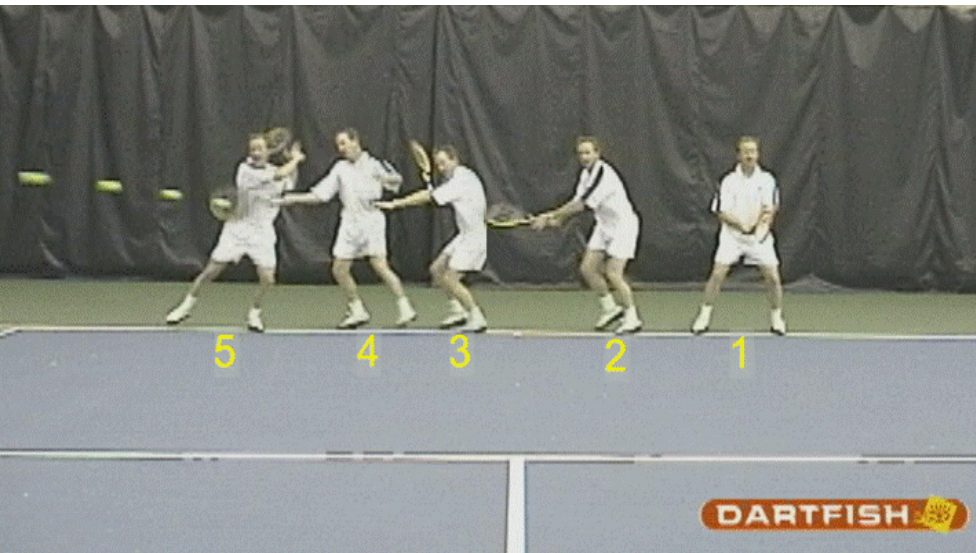


A STROMOTION ANALYSIS OF THE FOREHAND By Warren Pretorius, USPTA Master Professional



During the past three years in my work developing tennis protocol for Dartfish performance analysis software, I have been very fortunate to analyze many of the top players in the world. Despite stylistic differences, I have noticed striking similarities (excuse the pun!) between most players:

Ready position - StroMotion 1 (See illustration below)

In almost every player we analyzed, a triangle is formed between the body and arms in the ready position. Arms and hands are loose, hardly gripping the racket. Player is on the balls of their feet, ready to make the key first step, a plyometric or explosive movement to the ball.

Unit turn - StroMotion 2 (See illustration below)

I have rarely seen a player with their “racket back early.” The unit turn, a 90 degree turn of the shoulder starts the preparation phase. The triangle mentioned above remains intact through a 90 degree turn of the shoulder. The **arms move away** and almost out to the side of the body. The right elbow is at the same height (or slightly higher) than the left (front) elbow. This enables the player to shorten the swing for faster paced shots like the return, or lengthen the stroke for a put away. This elbow-out position also fosters a closed racket face and keeps the stroke path on the right hand side of the body, key elements to generating controlled power. Most players make the mistake of pointing their racket to the back fence, essentially creating a single-length stroke that invariably breaks down with faster paced shots.

Full load - StroMotion 3 (See illustration below)

The fully loaded position is the point where the movement and preparation phase ends, and the striking phase begins. A weight shift occurs from the outside (right) foot to the inside (left) foot through point of contact, regardless of whether the player is hitting open stance or stepping in. Kinetic energy is transferred from the legs to hips to shoulders to arms in a lifting, unwinding motion to point of contact, creating a biomechanically efficient stroke. The old tip of “staying down” on the shot may actually prevent you from hitting the big time!

Point of contact - StroMotion 4 (See illustration below)

The point of contact should be out in front of the body, the exact point largely dependent on the grip used. As players gravitate to a more western grip, point of contact is further forward. I have studied high speed film of most of the top players, and there is **negligible wrist movement** through point of contact. Flicking or brushing your wrist through point of contact will only cause you to risk an injury while you miss-hit the ball!

Extension and Follow through - StroMotion 5 (See illustration below)

An often overlooked element of the stroke is **extension through point of contact**. Players (and coaches) have become so wrapped up (literally!) in the follow through, that many players “pull” too quickly through point of contact. Extending out and through point of contact essentially lengthens the strike zone ensuring more sweet spot hits. The follow through is your body’s “shock absorber” – after point of contact the arm decelerates, ending up over your left shoulder with your palm facing away from your body and elbow pointing forward.